tric, vaginal, vesical and uterine ganglia are delineated in the fourth month of pregnancy, and also the plexuses of nerves on the anterior surface of the uterus.

From an examination with the microscope of portions of the plexuses under the peritoneum of a gravid uterus in the ninth month, which had long been immersed in rectified spirit, Professor Owen and Mr. Kiernan inferred that they were not nervous plexuses, but bands of elastic tissue, gelatinous tissue, or cellular membrane.

The author concludes his paper with a letter from John Dalrymple, Esq., containing the results of the observations he had made with the microscope on the uterine nerves in the recent state. Filaments of the nerves which surrounded the ureter, and which were situated upon the body of the uterus, were submitted to the microscope. The instrument employed was a very powerful object-glass, whose focus was the eighth of an inch, made by Ross. Mr. Dalrymple found that it was impossible, even with the most careful dissection, to detach any filament of nerve without including a quantity of cellular and elastic tissue; so that although the tubular portion indicating the nerve was distinct, yet it was surrounded by innumerable extremely minute threads coiled and contorted, such as those which constitute the component of elastic tissue, and the ultimate element of cellular membrane. Under slight pressure, however, the tube was plainly discernible, and was found to contain granular matter, not uniformly distributed, but collected in minute masses at intervals. Small blood-vessels were also here and there seen, with blood-discs within them, which served to indicate the difference between the nervous and vascular tubes, and thus to avoid the possibility of error. Being, however, aware that some of the most distinguished foreign microscopical anatomists had differed as to what was the real characteristic of the nerves of the sympathetic system, and feeling, from this discordance of opinion, that there was no absolute test, or at least none which was not open to cavil, Mr. Dalrymple thought of making a comparison of the uterine nerves with those that undeniably belonged to the ganglionic system. He therefore traced some nerves on the surface of the stomach up to the great ganglion that gave them origin; and he selected some also from the small intestine. These he submitted to the same microscopical power, and under the same circumstances of light, and pressure, and medium. In all of these he observed the tubular part filled with granular matter, and similarly collected in minute masses. He also observed that each tube was surrounded by the minute serpentine threads before described. In fact, so closely did they agree in every particular with the appearances presented by the uterine nerves, that it would have been impossible to distinguish the one from the other.

4. "On the Corpuscles of the Blood." Part III. By Martin Barry, M.D., F.R.SS. L. and E.

After remarking that no clear conception has hitherto existed of the mode in which the floating corpuscles of the blood conduce to nourishment, the author states that he has found every structure he has

examined to arise out of corpuscles having the same appearance as the corpuscles of the blood. The following are the tissues which he has submitted to actual observation, and which have given the above result, namely, the cellular, the nervous, and the muscular; besides cartilage, the coats of blood-vessels, several membranes, the tables and cells of the epithelium, the pigmentum nigrum, the ciliary processes, the crystalline lens itself, and even the spermatozoon and the ovum.

The author then traces the nucleus of the blood-corpuscle into the pus-globule; showing that every stage in the transition presents a definite figure. The formation of the pus-globule out of the nucleus of the blood-corpuscle is referable to the same process, essentially, as that by means of which the germinal spot comes to fill the germinal vesicle in the ovum. This process, which, in a former memoir, he had traced in the corpuscles of the blood, he now shows to be universal, and nowhere more obvious than in the reproduction of the tables of the epithelium. The epithelium-cylinder seems to be constituted, not by coalescence of two objects previously single, as has been supposed, but by division of a previously single object. Certain objects, called by the author *primitive discs*, exhibit an inherent contractile power, both when isolated, and when forming parts of a larger object; an incipient epithelium-cylinder having been observed by him to revolve by this means. Molecular motions are sometimes discernible within corpuscles of the blood. The author has noticed young blood-corpuscles exhibiting motions, comparable to the molecular, and moving through a considerable space; and he has met with the nuclei of blood-corpuscles endowed with cilia, revolving, and performing locomotion. In his first paper on the Corpuscles of the Blood, he described certain instantaneous changes in form which he had observed in blood-corpuscles, and afterwards expressed his belief, that these changes were referable to contiguous cilia, although he had not been able to discern any such cilia. He now states that subsequent observation inclines him to think that these changes in form arise from some inherent power, distinct from the motions occasioned by cilia. The primitive disc, just mentioned, seems to correspond, in some instances, with the "cytoblast" of Schleiden. Thus the very young corpuscle of the blood is a mere disc; but the older corpuscle is a cell. The author minutely describes the mode of origin of the pigmentum nigrum; showing that it arises in a similar manner in the tail of the tadpole, and in the choroid coat of the eye. He had before described the Graafian vesicle as formed by the addition of a covering to the previously-existing ovisac: this covering, he afterwards stated, becomes the corpus luteum. He now confirms these observations, with the addition, that it is the blood-corpuscles entering into the formation of the covering of the ovisac, which give origin to the corpus luteum. The spermatozoon appears to be composed of a few coalesced discs. The fibres of the crystalline lens are not elongated cells, as supposed by Schwann; but coalesced cells, at first arranged in the same manner as beads in a necklace.

The author concludes with the following recapitulation:—1. The nucleus of the corpuscle of the blood admits of being traced into the pus-globule. 2. The various structures arise out of corpuscles having the same appearance, form, and size as corpuscles of the blood. 3. The corpuscles having this appearance, and giving origin to structures, are propagated by division of their nuclei. 4. The corpuscles of the blood, also, are propagated by division of their nuclei. 5. The minuteness of the young blood-corpuscles is sometimes extreme; and they are to be found in parts usually considered as not being permeable by red blood.

In a postscript, the author adds, that blood found in the heart immediately after death by bleeding, presents incessant alterations in the position of its corpuscles. Among these, when a single corpuscle is examined very attentively, it is seen to change its form; and the author is disposed to think it is this change of form that produces the alterations in position. The changes in form are slight, compared with those previously described by him as observed in blood elsewhere, and are not seen without close attention. The motions resemble those called molecular; and in the minutest corpuscles, which are mere points, nothing besides molecular motion can be discerned. It may be a question, the author thinks, whether molecular motion differs in its nature from the motion of the larger corpuscles just referred to. The division of the blood-corpuscles into corpuscles of minuter size, though apparent in blood from either side of the heart, has seemed more general in that from the left side; which, it is suggested, is perhaps deserving of notice in connexion with the subject of respiration.

5. "A new Theory of Physics, with its application to important phenomena hitherto considered as ultimate facts." By Thomas Exley, Esq., A.M.

The theory of the author is founded on the two following propositions, namely, that

1. Every atom of matter consists of an immense sphere of force, varying inversely as the square of the distance from the centre; this force being attractive at all distances, except in a small concentric sphere, in which it is repulsive.

2. Atoms differ from each other in their absolute forces, or in the extent of their spheres of repulsion, or in both these respects.

The author assumes that there are four classes of atoms, the *tenacious*, the *electric*, the *ethereal*, and the *aromatic*. The existence of the last-named class of atoms he infers from the phenomena of vegetation, the miasmata of marshes, the aroma of plants, various noxious effluvia, the disinfecting property of some bodies, and facts relating to animalcules, and their ova, &c. He regards the two propositions which constitute the great principles of his theory, as presenting, at once, a complete explication of the general attributes of matter and body, with the Newtonian laws of motion, not otherwise theoretically explicable.

After pursuing at some length his theoretical speculations, founded